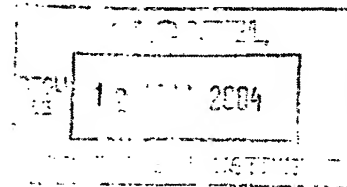


ALCATEL



Intellectual Property  
Group  
5, rue Noël Pons  
92734 Nanterre Cedex, France  
Tél. : + 33 (0)1 46 52 30 00  
Fax : + 33 (0)1 46 52 43 78

EUROPEAN PATENT OFFICE  
D- 80298 München  
GERMANY

*Recommandé AR*

Nanterre, April 29, 2004

Our/Ref.: 104366/HAS

**Reply to Written Opinion Under Rule 66 PCT**  
**INTERNATIONAL APPLICATION No. PCT/EP 02/08063.**  
**Applicant: ALCATEL**

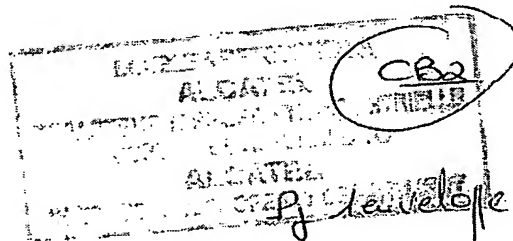
Dear Sirs:

In response to the Written Opinion drawn up by the IPEA dated 05.02.2004,  
the following documents are submitted.

- Amendment to the claims pursuant to Article 34(2)(b) PCT, by way of replacement sheets 16-19.
- Remarks in support of the amendments. The remarks contain reasons for carrying out the new amendments as well as differences between the replaced and replacements sheets (Rule 66.8 PCT).

Sincerely yours,

Hassan Shamsaei



Encl.

**REMARKS**

- 1- References to documents cited as prior art are made in accordance with the numbering allocated by the International Preliminary Examination Authority (IPEA) in the Written Opinion.

**AMENDMENTS**

- 2- A new set of amended claims is submitted. In particular claims 1 and 14 have been amended in the characterizing portions thereof so as to distinguish the subject-matter of the claimed invention from the prior art in a clearer manner. Original claim 21 has been deleted. As a result, the rest of the original claims 22-26 have been renumbered and slightly amended where necessary in order to arrange claim dependencies according to the new numbering. Original claim 10, has been amended to overcome clarity objection.
- 3- The amended subject-matter to the claims 1 and 14 relates to the following features:
- Said up-link data received by said satellite (2) comprises a digital channel corresponding to a respective computation center (3). Support for this feature is to be found in the description, *inter alia*, on page 10 lines 9-13 as originally filed.
  - Said computation center (3) is connected to a down-link adapter (7) connected to a receiver or group of receivers (6). Support for this feature is to be found in the description, *inter alia*, on page 9 lines 24-29.
  - Said down-link adapter is adapted for extracting, from said down-link transmission, only said digital channel corresponding to the respective computation center (3). Support for this feature is to be found in the description, *inter alia*, on page 10 lines 7-9.
- 4- Support for the amendment of claim 10 is to be found on the paragraph bridging pages 10 and 11.
- 5- As a result, it is believed that by the above amendments no new subject matter has been introduced into the claims.

**NOVELTY:**

- 6- IPEA considers that the invention lacks novelty in view of D1. In item 3, first paragraph of the Written Opinion, IPEA argues that D1 discloses a satellite based monitoring, measurement or data collection system. IPEA considers that the feature "monitoring" is equivalent to "video"; "measurement" is equivalent to "audio" and "data collection" is equivalent to "data" as disclosed in D1. No reason has been given in the Written Opinion as to why the mentioned features in the claimed invention are equivalent to the respective ones disclosed in D1.
- 7- To the contrary of the assessment of IPEA, it is believed that there is no equivalency to be found between the mentioned features in the two documents.
- "Monitoring" in the general sense means "observe, supervise, keep under review,..., especially for the purpose of regulation or control". In a more technical sense "monitoring" means "check or regulate the technical quality of (a radio transmission, television signal, etc.)" (both meanings obtained from Webster Dictionary). None of these meanings have any direct relationship with the feature "video" as "a type of service component" disclosed in D1.
  - Similar argument can be given for the comparison between "Measurement" and "audio". It is not clear why IPEA considers the two features to be equivalent.
  - "Data collection" in the sense of the present application is related to obtaining data related to the satellite, the data then being provided to a computation center (cf. paragraph bridging pages 1 and 2 of the description – among other passages –). This is completely different from what is meant by "data" in D1 as "a type of service component" in the passage thereof cited by the IPEA.
- 8- Irrespective of the above, which provides sufficient arguments as to the novelty of the present invention, as further arguments, it is submitted that none of the prior art documents, including D1, disclose the features of the invention as claimed.
- 9- In particular D1 discloses a solution for broadcasting audio, data and images to the public using low cost receivers (D1, col. 1, lines 44-46). No mention is made in D1 as to the possibility of up-link transmitting of a channel carrying data corresponding to a computation unit, wherein –after multiplexing in a satellite – the channel is broadcast in down-link to a plurality of computation centers, such that in a particular computation unit the channel which corresponds to said computation center is extracted by means of a receiver connected to an adapter.

- 10- In item 3, second paragraph of the Written Opinion it is considered that the "computation centers" are equivalent to a "mobile unit" (29a), a "hand-held unit" (29b) or a "processing terminal" (29c). In the first place IPEA does not explain why these units can be comparable to a "computation center" as described in the present invention. Secondly, even if one were to admit a remote comparison, there would still remain the difference between the mentioned units and the computation center of the present invention in that the mentioned units are not capable of extracting a channel corresponding specifically to them; for example a particular hand-held unit in D1 receives and extracts the same channel as many other hand-held units would do. In other words, the channel extracted is not broadcast for a specific hand-held unit and other hand-held units being in the broadcast coverage would be able to extract the same channel. The same example is applicable to the "mobile unit" and the "processing terminal". In the present invention, while a plurality of different channels may be broadcast corresponding to different computation centers, only the channel corresponding to the particular computation center is extracted at the corresponding computation unit.
- 11- IPEA further considers, in the same paragraph mentioned above, that the feature disclosed in D1 reading "For example, these radio receivers can playback an audio program received on a first channel and a related video program received on another channel" is equivalent to the feature of the invention according to which a channel which is broadcast corresponds to a respective computation center. To the contrary of this assessment, the fact that a receiver can playback two different programs as disclosed in D1, does not mean that the channel or channels correspond specifically to a particular receiver. Furthermore, from the cited passage it is readily clear that the receivers simply extract whatever is broadcast to them, e.g. audio and video programs. As mentioned also in paragraph 9 above, no mention is found in D1 as to broadcasting a specific channel corresponding to a specific receiver; all receivers under the broadcast coverage (having the required reception capabilities, software programs, etc) would extract the same channel.

INVENTIVE STEP or NON-OBVIOUSNESS:

- 12- Although no objection has been raised in the Written Opinion as to an alleged lack of inventive step (for the purpose of this discussion non-obviousness is also to be understood within the framework of the expression "inventive step"), the following is a brief and non-exhaustive discussion in support of the presence of inventive step.

- 13- D1 is considered to be the closest prior art document as it relates to a solution on broadcasting signals using a satellite based direct radio broadcast system in which up-link signals from a plurality of stations is multiplexed on-board a satellite and are broadcast to a plurality of receiving stations.
- 14- The difference between the features disclosed in D1 and the claimed invention is that in D1 a plurality of receivers, pertaining to a specific type for example cell phones, extract the channels received and said channels are not specific to a particular unit, whereas in the claimed invention only the channel corresponding to the computation center is extracted and provided thereto by means of a receiver and an adapter.
- 15- Starting from D1 and desiring to arrive to the solution of the present invention, a skilled person would not find any hint or suggestion either in D1 alone or in combination with other prior art documents toward the use of channels corresponding to specific computation centers which are all broadcast at the same time from a satellite to all computation units under coverage of the satellite broadcast and that only the channel corresponding to each respective computation center is extracted at the receiver side.
- 16- The arguments provided above (paragraphs 12-15) should not only prove the presence of inventive step but also should provide a response to the items 9a and 9b of the Written Opinion. The technical features that solve the problem as outlined in the present invention are to be found in the characterizing portion of claims 1 and 14.
- 17- In view of the foregoing, it is believed that claims 1 and 14 are new and inventive.
- 18- The remaining claims are also considered to be new and inventive in the light of the novelty and inventiveness of the claims 1 and 14.

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## CLAIMS

- 1- A satellite-based monitoring, measurement or data collection system comprising:
- 5       - a monitoring, measurement or data collection system having a plurality of monitoring stations (4) for remote monitoring, measurement or data collection and for providing data, to respective computation centers (3), and;
- 10       - a satellite system using at least one satellite (2) having an on-board processor for multiplexing up-link data received and broadcasting said multiplexed data in down-link transmission;
- characterized in that
- 15       - said up-link data received by said satellite (2) comprises a digital channel corresponding to a respective computation center (3);
- 20       - said computation center (3) is connected to a down-link adapter (7) connected to a receiver or group of receivers (6); and
- 25       - said down-link adapter is adapted for extracting, from said down-link transmission, only said digital channel corresponding to the respective computation center (3).
- 20   2- A system according to claim 1, wherein each of said monitoring stations (4) is connected through an up-link adapter (5) to the satellite up-link broadcasting station (1).
- 3- A system according to claim 1 or 2, wherein said satellite system is a digital direct broadcast satellite system.
- 25   4- A system according to any one of the previous claims, wherein at least one of said monitoring stations (4) has at least one channel from the up-link transmission allocated thereto.
- 30   5- A system according to claim 4, wherein several remote channels, or several monitoring stations (4) are grouped together using sub-multiplexing channel capabilities of said digital direct broadcast satellite system.
- 6- A system according to any one of the previous claims, wherein a monitoring station (4) has a receiver for synchronizing message

transmission using data extracted from said down-link channel multiplex content.

- 7- A system according to any one of the previous claims, wherein time and/or date is broadcast to said down-link adapters (7), and optionally to said digital direct broadcast satellite receivers (6).
- 8- A down-link adapter for extracting at least one channel from a down-link transmission as claimed in claim 1.
- 9- A down-link adapter according to claim 8 for converting data framing from said satellite down-link data channel rate to message format and/or converting data rate to rate adapted to a cyclic data rate of said monitoring, measurement or data collection system.
- 10-A down-link adapter according to any one of claims 8 or 9 wherein said down-link adapter provides data to another adapter connected to a monitoring station (4).
- 11-An up-link adapter for converting signals received from a monitoring station (4) of a monitoring, measurement or data collection system, into signals suitable for digital up-link transmission as claimed in claim 2.
- 12-An up-link adapter according to claim 11 for converting data message format from said monitoring station (4) to an up-link format of said satellite system and/or converting data rate to an uplink rate adapted to said satellite system.
- 13-An up-link adapter according to claims 10 and 11 wherein said up-link adapter (5) receives data from another adapter such as a down-link adapter (7).
- 14-A method for interconnecting elements of a monitoring, measurement or data collection using a satellite system, comprising:
  - remote monitoring, measurement or data collection by means of a plurality of monitoring stations (4) and providing data to respective computation centers (3), and;
  - at least one satellite (2) of said system multiplexing up-link data by means of an on-board processor and broadcasting said multiplexed data in down-link transmission;characterized by the further steps of:
  - transmitting a digital channel in said up-link data to said satellite (2), said channel corresponding to a respective computation center (3),

said computation center (3) being connected to a down-link adapter (7) connected to a satellite receiver or a group of satellite receivers (6); and

- 5       - extracting from said down-link transmission, by said down-link adapter, only said digital channel corresponding to the respective computation center (3).

- 15-A method according to claim 14 wherein said up-link broadcasting station (1) performs up-link broadcasting of data received from an up-link adapter (5) connected thereto.
- 10   16-A method according to claim 12 or 13 wherein said satellite system is a digital direct broadcast satellite system.
- 17-A method according to claim 14 wherein said broadcasting of the multiplexed data in down-link transmission is performed in time division multiplexing, TDM, mode.
- 15   18-A method according to claim 14 wherein marker indexing is used in said down-link transmission as a synchronization signal.
- 19-A method according to claim 18 wherein said synchronization is also used for sub-multiplexing up-link channels transmission.
- 20-A method for interconnecting adapters (5; 7) as in claim 13, wherein data  
20   is returned from a down-link adapter (7) to an up-link adapter (5) transferring time information and/or data information between said adapters (5; 7).
- 21-A method for use in the adapter of claim 12 or 13 wherein a data  
25   message is delayed before being put into a next frame generated at a digital direct broadcast satellite channel rate, using a frame produced faster than needed by the rate of monitoring, measurement or data collection, thus giving rise to a so-called marker frame carrying data such as timing data.
- 22-A method for use in the adapter of claim 8 or 9 wherein data related to  
30   time and/or date is/are broadcast through a digital direct broadcast satellite system and wherein a frame received at a digital direct broadcast satellite channel rate, is converted into a message at a monitoring, measurement and data collection rate with the exception of a marker frame carrying data such as timing data.



- 23-A method according to claim 22 wherein said timing data is used for evaluating transit time or for providing time to any other unit connected thereto such as a display.
- 5 24-A method according to claim 23 wherein a transit time of a message from a time instant it is transmitted from an up-link adapter until a time instant it is received by a down-link adapter through a digital direct broadcast satellite is evaluated.
- 10 25-A method according to claim 13 wherein a computation center (3) broadcasts through a digital direct broadcast satellite, to said monitoring stations (4) by means of an up-link adapter (5) incorporated therein and a monitoring station (4) having a down-link adapter (7) detects a channel specifically addressed thereto, providing data to said monitoring station, said data being usable for implementing a unicast, multicast or broadcast addressing scheme.
- 15

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